

WHAT IS CLAIMED IS:

- 1 1. A method for server cluster power management, comprising the steps of:  
2 grouping activities within a server cluster into predefined sets;  
3 assigning a priority level to each set;  
4 identifying a first server hosting a first set of lower-priority activities within the  
5 cluster;  
6 receiving a power interruption signal; and  
7 diverting power reserves of the first server to another server in the cluster, in  
8 response to the power interruption signal.
- 1 2. The method of claim 1 wherein the grouping step includes the step of:  
2 grouping activities by data type.
- 1 3. The method of claim 1 wherein the grouping step includes the step of:  
2 grouping activities by process.
- 1 4. The method of claim 1 wherein the grouping step includes the step of:  
2 defining activity sets based on Quality of Service according to a Common Open  
3 Policy Service Protocol (COPS).
- 1 5. The method of claim 1 wherein the assigning step includes the step of:  
2 assigning the priority level based on the Quality of Service associated with the  
3 activity set.

1 6. The method of claim 1 wherein the receiving step includes the step of:  
2 receiving the power interruption signal, in response to a server cluster power  
3 failure.

1 7. The method of claim 1 wherein the receiving step includes the step of:  
2 receiving the power interruption signal, in response to a network administrator  
3 command.

1 8. The method of claim 1, further comprising the step of:  
2 diverting the first set of lower-priority activities to another server in the cluster.

1 9. The method of claim 1:  
2 wherein the identifying step includes the step of,  
3 identifying a second server hosting a second set of lower-priority activities  
4 within the cluster; and  
5 wherein the diverting step includes the step of,  
6 diverting power reserves of the second server to another server in the  
7 cluster, in response to the power interruption signal.

1 10. The method of claim 1 wherein the diverting step includes the step of:  
2 diverting battery power reserves of the first server to another server in the cluster.

1 11. The method of claim 1 further comprising the step of:  
2 shifting a set of high-priority activities to operational servers in the cluster, in  
3 response to the power interruption signal..

1 12. The method of claim 1 further comprising the steps of:  
2 identifying a second server hosting an activity which is highest on the priority  
3 list;  
4 diverting power reserves from all servers to the second server.

1 13. The method of claim 1 further comprising the step of:  
2 incrementally shutting down lower-priority activities on the second server as  
3 power reserves dwindle.

1 14. A method for server cluster power management, comprising the steps of:  
2 grouping activities within a server cluster into predefined sets;  
3 assigning a priority level to each set;  
4 identifying a first server hosting a first set of lower-priority activities within the  
5 cluster;  
6 receiving a power interruption signal;  
7 diverting power reserves of the first server to another server in the cluster, in  
8 response to the power interruption signal;  
9 identifying a second server hosting an activity which is highest on the priority  
10 list;



1 18. The medium of claim 15 wherein the receiving step includes the step of:  
2 receiving the power interruption signal, in response to a network administrator  
3 command.

1 19. The medium of claim 15, further comprising the step of:  
2 diverting the first set of lower-priority activities to another server in the cluster.

1 20. The medium of claim 15 further comprising the steps of:  
2 identifying a second server hosting an activity which is highest on the priority  
3 list;  
4 diverting power reserves from all servers to the second server.

1 21. The medium of claim 15 further comprising the step of:  
2 incrementally shutting down lower-priority activities on the second server as  
3 power reserves dwindle.

1 22. A system for server cluster power management comprising a:  
2 means for grouping activities within a server cluster into predefined sets;  
3 means for assigning a priority level to each set;  
4 means for identifying a first server hosting a first set of lower-priority activities  
5 within the cluster;  
6 means for receiving a power interruption signal; and  
7 means for diverting power reserves of the first server to another server in the  
8 cluster, in response to the power interruption signal.

1 23. A system for server cluster power management comprising:  
2 servers, hosting a plurality of activity sets each having an associated Quality of  
3 Service (QoS) level;  
4 power reserves coupled to the servers;  
5 a switch matrix coupled to direct the power reserves between the servers; and  
6 a power manager, coupled to the switch matrix, for commanding the switch  
7 matrix to divert power from servers hosting low QoS activity sets to servers hosting high-  
8 priority activity sets, in response to a power interruption.

1 24. The system of claim 23, wherein the power reserves include:  
2 uninterruptible power supplies with battery backup.

1 25. The system of claim 23, further comprising:  
2 a QoS line coupling the servers to the power manager for transmitting the QoS  
3 level of the activity sets.

1 26. The system of claim 25, wherein the QoS line transmits QoS information  
2 according to a Common Open Policy Service Protocol (COPS).

1 27. The system of claim 23, further comprising:  
2 a power divert line coupling the power reserves to the switch matrix for carrying  
3 the diverted power.